

WHAT IS CLAIMED IS:

1. A non-aqueous electrolyte secondary cell comprising:

a cathode containing a compound expressed by a general formula $A_xM_yPO_4$ (wherein A represents an alkali metal and M represents a transition element, which are contained in ranges: $0 < x \leq 2$ and $1 \leq y \leq 2$);

an anode containing sintered carbon material prepared by sintering a carbon material capable of doping/dedoping lithium; and

a non-aqueous electrolyte solution.

2. The non-aqueous electrolyte secondary cell as claimed in Claim 1, wherein the M includes at least one of Co, Ni, Fe, Mn, Cu, Mg, Zn, Ca, Cd, Sr, and Ba.

3. The non-aqueous electrolyte secondary cell as claimed in Claim 1, wherein the compound expressed by the general formula $A_xM_yPO_4$ is $Li_xFe_yPO_4$.

4. A non-aqueous electrolyte secondary cell comprising a cathode containing a compound expressed by a general formula $A_xM_yPO_4$ (wherein A represents an alkali metal and M represents a transition element, which are contained in ranges: $0 < x \leq 2$ and $1 \leq y \leq 2$), an anode capable of doping/dedoping lithium, and a non-aqueous electrolyte solution, wherein

the cathode is a molded body made from an active material, conductive agent and/or binder; and

the anode is a molded body made from an active material and/or conductive agent alone.

5. The non-aqueous electrolyte secondary cell as claimed in Claim 4, wherein the active material constituting the cathode contains $A_xM_yPO_4$ having a particle diameter not greater than 10 micrometers.

6. The non-aqueous electrolyte secondary cell as claimed in Claim 4, wherein the anode uses at least one material selected from carbon powder, a material capable of forming an alloy with lithium, and a material capable of forming a compound with lithium.